THE OFFICE ACTION

The specification was objected to for the improper use of trademarks.

Claims 1-2, 7, 10, 15, 17, 19, and 23-26 are rejected under 35 U.S.C. § 102(b) as being anticipated by Thelen et al, 4,564,310 or Japanese Patent Abstract No. JP 4048927.

Claims 1-26 are rejected under 35 U.S.C. § 102(b) as being anticipated by PCT Publication No. WO 92/19669.

Claims 8 and 12 are rejected under 35 U.S.C. § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

OBJECTIONS TO THE SPECIFICATION

The applicants have carefully amended the specification to correct the trademark terminology as required by the Examiner.

REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

The applicants have carefully amended Claims 8 and 12 to address the rejections raised by the Examiner. Specifically, **Claim 8** has been amended to remove the indefinite "type" and replace it with the limitation "wherein the block copolymer comprises a styrene block." Support for this amendment may be found on page 4 of the specification, where the thermoplastic block copolymers are each defined as including a styrene block.

Additionally, **Claim 12** has been amended to remove the phrase "for example" and the limitation that follows the phrase to cure the indefinite rejection made by the Examiner.

Applicants submit that the above amendments to Claims 8 and 12 cure all objections based on informalities, and request that these rejections be withdrawn.

The Present Application

The essence of the present invention is the use of a thermoplastic elastomer, referred to in the specification as "TPE." The nature of the thermoplastic elastomer is disclosed at page 3, line 26 to page 4, line 17. It is to be noted, especially in view of the documents cited by the Examiner, that the term "TPE" is not equivalent to "SBR." As is known in the art, the term "SBR" is an abbreviation, not for styrene-butadiene polymers in general, but for the particular type of styrene-butadiene copolymer produced by a process of random polymerization of styrene and butadiene. SBR is inevitably used in a vulcanized (cross-linked) form. Without cross-linking, it does not possess elastomeric properties.

Thermoplastic elastomers, on the other hand, do not require cross-linking to achieve elastomeric properties. Rather, elastomeric properties may be diminished by cross-linking. The nature of this thermoplasticity is referred to in the specification at page 4, lines 7-17. A general definition of thermoplastic elastomers may be found on page 400 of the Kirk-Othmer "Concise Encyclopedia of Chemical Technology." A copy of that page is enclosed herewith. As defined, Thermoplastic resins

> "...are polymeric structures that soften or melt at elevated temperatures allowing them to be processed into fabricated products that, when cooled, recover the physical and chemical properties of the original resin."

This general statement does not apply to the polymers generally referred to as SBR. The different nature of SBR and thermoplastic elastomers, such as Kraton™ 1101 and Kraton™ 1107 is shown in Table 1 on the enclosed page 400. Also enclosed is a copy of the Kirk-Othmer full article on thermoplastic elastomers, pages 315-337. This article more fully defines the unique characteristics of thermoplastic elastomers.

The References of Record

With reference to the **Thelen** patent, this document discloses a porous resilient paving system comprising four layers, the lowermost layer being of mineral aggregate and the other, superimposed, three layers comprising **vulcanized rubber** particles or fibers. the vulcanized nature of the particles or fibers is emphasized in column 3, lines 13-17, where it states that a preferred source of those particles or fibers is recycled tires. In light of the above discussion, Applicants respectfully submit that the Thelen patent does not anticipate the present application.

With reference to **Bowers (WO 92/19669)**, the application discloses a method of preparing a sports surface using:

(a) a particulate material coated with a liquid curing agent, and subsequently treating that material with

(b) a liquid polymer or prepolymer in situ.

The PCT application further provides at page 5, line 22 the use of SBR and PU. Moreover, on page 3, lines 10-11 the PCT application discloses "the particulate material may be a synthetic or natural rubber crumb." There is no reference or suggestion in the specification to use a thermoplastic elastomer. In light of the above discussion, Applicants respectfully submit that the present application is not anticipated by the PCT application.

With reference to the Japanese Abstract **No. JP04-048927**, the abstract discloses preparation of an elastic playing surface, for example a tennis court, comprising:

(a) applying to a base a coarse granular rubber layer having cavities in the inner part,

(b) then applying a fine granular rubber layer; and

(c) then applying a facing layer.

The layer (a) can be, for example, pulverized waste tire, natural rubber, or styrene-butadiene rubber. The fine material of (b) can be the same material as that of (a). The facing layer of (c) can be, for example, a polyurethane or styrene-butadiene rubber. The use of the term "rubber" clearly indicates a vulcanized material and not a thermoplastic elastomer. In articular, there is no disclosure in the abstract of the use of any thermoplastic elastomers. In light of the above discussion, Applicants respectfully submit that the present application is not anticipated by the Japanese abstract.

The Claims Distinguish Patentably Over the References

Claim 1 calls for an agglomerate of particles of a **thermoplastic** material. Neither Thelan, JP04-048927, nor Bowers disclose thermoplastic elastomers. Thelan only discloses the use of vulcanized rubber, which is not a thermoplastic material. The Japanese abstract only discloses vulcanized rubber, natural rubber, and styrene-butadiene rubber (SBR), none of which are thermoplastic materials. Bowers only discloses liquid polymers and prepolyemrs, such as SBR or PU, neither of which are thermoplastic materials. Because none of the cited references teach or fairly suggest the use of thermoplastic elastomers, it is submitted that **Claim 1**, and **Claims 2-26** dependent therefrom, distinguish patentably over the references of record.

The references of record fail to suggest the use of thermoplastic elastomers such as those disclosed in the present application. Rather, the references of record teach away from the use of thermoplastic elastomers by requiring the use of rubbers, which require vulcanization to achieve the desired properties. The thermoplastic elastomers of the present application could lose many of their desired properties if vulcanized as the rubbers in

the references of record are. Accordingly, Applicants submit that claims 1-26 differ patentably over the references of record.

Conclusion

In view of the above, Applicants submit that claims 1-26 are now in condition for allowance. An early allowance of all claims is respectfully requested.

If any fee is due in conjunction with the filing of this response, Applicants authorize deduction of that fee from Deposit Account No. 06-0308.

Respectfully submitted,

FAY, SHARPE, FAGAN,
MINNICH & McKEE, LLP

Thomas E. Kocovsky, Jr.
Reg. No. 28,383
1100 Superior Avenue
Seventh Floor
Cleveland, OH 44114-2518
(216) 861-5582

CERTIFICATE OF MAILING

I hereby certify that this **AMENDMENT A** in connection with U.S. Patent Application Serial No. 09/435,034 is being deposited with the United states Postal Service as first class mail in an envelope addressed to: Assistant Commissioner for Patents, Washington, D.C., 20231, on this 31st day of October, 2001.

By: Mary McKee

L:\OC\TEK\PAR2013.AMN